

XIV.—*The Butterflies of the Nilgiri District, South India.*—By G. F. HAMPSON, B. A., Coll. Exon. Oxon. Communicated by THE SUPERINTENDENT OF THE INDIAN MUSEUM.

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The Nilgiris form the south-western extremity of the Eastern Gháts, which branch off from the Western Gháts north of the Palghát Gap, the only gap in the great range of mountains which run parallel with the west coast of India from Cape Comorin to Bombay. Zoologically, the Nilgiri District forms the north-eastern extremity of the Ceylonese subdivision of the Oriental region—the sub-region extending northward along the Western Gháts to Bombay—, and its fauna and flora is essentially of a Ceylonese type, largely mingled with the wide-spread forms of the plains of India.

The district is a wedge-shaped triangle with a base of about twenty-five miles resting on Malabar, its apex, forty miles off, pointing north-east towards Madras.

On the west, the Malabar boundary runs along the slopes of the Nilgiris at an elevation of three to six thousand feet; on the other sides, the district takes in a narrow strip of the plains from three to ten miles wide, bounded on the north by the Moyar River, on the other side of which lies Mysore and the Wynád, and on the south by the Bowani River, beyond which is the Coimbatore district. These rivers join at the north-eastern apex of the Nilgiris to flow later on into the Cauvery.

For zoological purposes the district falls naturally into four divisions :—

(1.) The plateau, with a general elevation of six thousand feet, though the rounded hills and peaks run up much higher, some to nearly nine thousand feet. Innumerable valleys, each with its swamp and stream, cut up the surface of the plateau. The land is clothed with short grass, and in every position sheltered from the wind are patches of forest from one to several hundred acres in extent. The fauna and flora of this division has a large remnant of Palæarctic genera and species, though the forms have mostly become sufficiently differentiated to form distinct species.

(2.) The slopes of the hills, clothed with forest and long lemon-grass, and ranging in elevation from 1000 ft. to 6000 ft. on the southern slopes, and from 3000 ft.—the elevation of the Mysore plateau—to 6,500 ft. on the northern slopes. To this division most of the peculiar forms belong, and it is by far the richest in species.

(3.) The strips of cultivated land at the base of the hills, with an

elevation of 1000 ft. on the southern side and 3000 ft. on the northern, and a fauna similar to that of the plains of India.

(4.) The tract of low-country forest within the north-western boundary, with a fauna like that of the jungles of the Wynád and Mysore, which lie just beyond.

Compared with most parts of Peninsular India, the district is very rich in butterflies, especially the slopes of the hills from two to five thousand feet in elevation. The following list will be found to be nearly complete, and I do not expect that more than about twenty species will be added to it.

The only regular flights of butterflies are those before the two monsoons, one from west to east at the end of May and beginning of June before the south-west monsoon, and one from east to west at the end of September and beginning of October before the north-east monsoon.

Most of the species have four broods, two in the dry-season and two in the wet-season; but some species have only the two wet-season broods, as Mr. Doherty has observed in other parts of India. Seasonal dimorphism is rather difficult to study on the Nilgiris, owing to the fact that the western and north-western slopes get heavy rain during the south-west monsoon and hardly any during the north-east; while the eastern and south-eastern slopes have their wet season during the north-east monsoon and get little of the south-west; and, consequently, the wet- and dry-season broods are some three months later in appearing on the southern and eastern slopes than on the western and northern, and the two forms get much mingled in the intermediate districts, which partially get both monsoons.

Family NYMPHALIDÆ.

Subfamily EUPLŒINÆ, Moore.

Group *Limnaina*, Moore.

1. *HESTIA MALABARICA*, Moore.

3000—4000 ft. Found only on the western slopes, the species being confined to the region of heavy rainfall.

2. *TIRUMALA LIMNIACE*, Cramer.

3. *TIRUMALA SEPTENTRIONIS*, Butler.

4. *LIMNAS CHRYSIPPUS*, Linnæus.

I have no specimen intermediate between *L. chrysippus* and *L. alcippoides*, Moore.

5. *SALATURA GENUTIA*, Cramer.

6. *PARANTICA AGLEA*, Cramer.

7. *CADUGA NILGIRIENSIS*, Moore.

Common throughout the district.

Group *Euplaena*, Moore.8. *PADEMMA KOLLARI*, Felder.

Two males at 3,500 ft. elevation on the northern slopes, and three pairs at 500 ft. on the western slopes.

9. *CRASTIA CORE*, Cramer.10. *NARMADA COREOIDES*, Moore.

Found with *C. core* and not uncommon in spring and autumn at all elevations.

Subfamily SATYRINÆ.

11. *MYCALESIS (VIRAPA) ANAXIAS*, Hewitson.

3000—5000 ft. In heavy forest; not common.

12. *MYCALESIS (ORSOTRIENA) MANDATA*, Moore.

Form *mandosa*, Butler.

3000 ft. Common in the jungles at the northern base of the hills and throughout the Wynád and Mysore forests. The wet-season form *mandata* is found from June to September, when its place is taken by the dry-season form *mandosa*.

13. *MYCALESIS (CALYSISME) PERSEUS*, Fabricius.

Form *blasius*, Fabricius.

„ *subfasciata*, Moore.

The wet-season form *blasius* on the Nilgiris has the ocellus on the upperside of the forewing as large as in *M. mineus*.

14. *MYCALESIS (CALYSISME) MINEUS*, Linnæus.

Form *justina*, Cramer.

„ *indistans*, Moore.

„ *visala*, Moore.

15. *MYCALESIS (TELINGA) ADOLPHEI*, Guérin.

5000—6000 ft. Confined to forest on the edges of the plateau. This species has only the two wet-season broods in May and August. The allied species, *M. oculus*, Marshall, is found on the Anaymalai hills south of the Palghát Gap.

16. *MYCALESIS (NISSANGA) JUNONIA*, Butler.

2000—3000 ft. Confined to the southern and western slopes, where it is common in heavy forest.

17. *LETHE EUROPA*, Fabricius.

3000—5000 ft. Rather rare.

18. *LETHE TODARA*, Moore.

3000—5000 ft. Common in the low-country jungles and on the slopes of the hills. A slight geographical variety of *L. drypetis*, Hewitson, the male of which species is slightly darker, the female with the white

band on the upperside of the forewing rather narrower than in *L. todara*.

19. *LETHE NEELGHERRIENSIS*, Guérin.

2000—7000 ft. Common throughout the district.

20. *YPTHEMA BALDUS*, Fabricius.

Form *marshalli*, Butler.

21. *YPTHEMA STRIATA*, n. sp.

HABITAT: southern slopes of the Nilgiris, 2000—4000 ft.

EXPANSE: 1·5 inches.

Wet-season form.

DESCRIPTION: MALE. UPPERSIDE, *both wings* uniform dark brown. *Forewing* with a distinct bipupilled black ocellus outlined with yellowish-brown. *Hindwing* with two ocelli faintly pupilled and with yellow iris, situated between the median nervules. UNDERSIDE, *both wings* white with numerous distinct brown striæ. *Forewing* with one bipupilled ocellus larger and brighter than on the upperside; crossed by two brown fasciæ, one submarginal, one discal, nearly meeting at the hinder angle. *Hindwing* with a double ocellus on a short brown fascia near the apex, and three linearly disposed towards the anal angle, the one nearest it bipupilled, these three ocelli situated on a brown fascia, and all the ocelli large and distinct; a fascia crossing the wing beyond the cell from the costa to the inner margin, and a less distinct one near the base of the wing. FEMALE; only differs in being rather larger and paler than the male. MALE; with no trace of the patch of dense scales on the upperside of the forewing.

Dry-season form.

MALE. UPPERSIDE, *forewing* with a slight patch of dense scales on the median nervure; with a very small and indistinct ocellus. UNDERSIDE, *both wings* with the fasciæ indistinct and the striæ smaller and denser. *Hindwing*, with the ocelli much smaller than in the wet-season form, the double ocellus near the apex separated into two ocelli, the upper one minute, and the bipupilled ocellus near the anal angle forming a double ocellus. FEMALE. UPPERSIDE, *forewing* differs from the male in having a large and distinct black bipupilled ocellus with yellow iris. UNDERSIDE, *both wings* with the fasciæ more prominent, but not as much so as in the wet-season form.

The wet-season form occurs commonly at about 3000 ft. on the southern slopes of the Nilgiris in August, and the dry-season form in December and January.

On August 25th of this year—one in which there has been hardly any rain on that side of the hills—I took at 5000 ft. a single male with no

trace of the patch of dense scales on the forewing, which also had no trace of an ocellus: the underside darker—the colour of *Y. mahratta*, Moore —, the fasciæ of both wings indistinct as in the dry-season form, the ocelli on the underside of the hindwing even smaller and more separated.

The disposition of the ocelli and general appearance of the two forms is the same, as also that of the single male above described, and I believe them to constitute one species, which I suspect to be the one mentioned as *Y. singala* from Kumaon and *Y. thora* from Ganjam by Mr. Doherty, J. A. S. B., 1886, Vol. LV, Part II, No. II, p. 120. The species is allied to, but quite distinct from, *Y. singala* and *Y. thora*, which I suspect are two forms of one species.

22. *YPTIMA MAHRATTA*, Moore.

3500 ft. The northern slopes, rare.

23. *YPTIMA HUEBNERI*, Kirby.

3000—4000 ft. The northern slopes, common.

24. *YPTIMA CEYLONICA*, Hewitson.

2000—4000 ft. The southern slopes, where it takes the place of *Y. huebneri* of the northern slopes.

25. *YPTIMA CHENUI*, Guérin.

5000—8000 ft. Common on rocky hill sides. It has four broods with scarcely any difference in the ocellation. Also found of larger size on the Anaymalai Hills south of the Palghát Gap flying with *Y. ypthimoides*.

26. *YPTIMA TABELLA*, Marshall.

Common at the north-west corner of the Nilgiris on the Wynád boundary.

27. *ZIPETES SAITIS*, Hewitson.

2000—3000 ft. Not uncommon on the western slopes. A brood emerges at the end of September.

28. *MELANITIS ASWA*, Moore.

Form *tambra*, Moore.

3000—4000 ft. Common on the lower slopes flying round trees at dusk. The former with the nearly straight outer margin to the forewing is the wet-season form appearing in June, the latter with the falcated forewing taking its place in December. The wet-season form varies much in the prominence of the ocelli of the underside; the dry-season form sometimes has the upperside immaculate, sometimes with one or more white subapical spots on the forewing.

29. *MELANITIS BELA*, Moore.

One specimen from the southern slopes is the only Nilgiri record of this species.

30. MELANITES LEDA, Linnæus.

Form *ismene*, Cramer.

On the Nilgiris the specimens of the wet-season form, *M. leda*, mostly have the fulvous markings of *M. ismene*, the dry-season form, on the upperside.

31. MELANITIS ACULEATA, n. sp.

HABITAT: Nilgiris N. slopes and Mysore forests, 3000 ft.

EXPANSE: 3.1 inches.

Dry-season form.

DESCRIPTION: MALE. UPPERSIDE, *both wings* uniform dark brown. *Forewing* with the outer margin very strongly falcated; a large black spot between the second and third median nervules, in the interspace above it another black spot with an indistinct whitish one on its outer edge, between this uppermost black spot and the costa a dusky ferruginous patch. *Hindwing* with three sharp-pointed angulations on the outer margin, two small white spots between the median nervules, and one between the upper median and lower discoidal nervules. UNDERSIDE, *both wings* ferruginous-brown, suffused with grey and ochreous near the base and costa of forewing and in some specimens mottled with black patches. *Forewing* with a brown fascia outside the cell from the costa to near the hinder angle. *Hindwing* with a fascia outside the cell from the costa to the abdominal margin; some specimens with a series of small white submarginal spots varying in number. FEMALE. Rather smaller than the male. UPPERSIDE, *forewing* with two white subapical spots. UNDERSIDE, *both wings* more variegated and the ocellation more distinct.

Wet-season form.

Differs only in having the outer margin of the forewing nearly straight and the ferruginous subapical patch more obscure.

This species is the South Indian representative of *M. ziteneus*, being slightly smaller than that species and with the subapical ferruginous patch obscure. Described from six males and one female of the dry-season brood and two males of the wet-season brood.

Subfamily ELYMNIINÆ.

32. ELYMNIAS CAUDATA, Butler.

1000 ft. Bamboo jungle at the foot of the southern and western slopes, rare.

Subfamily MORPHINÆ.

33. DISCOPHORA LEPIDA, Moore.

One female seen on the western slopes in October, 1888, at 300 ft.

Subfamily ACRÆINÆ.

34. TELCHINIA VIOLÆ, Fabricius.

Subfamily NYMPHALINÆ.

35. ERGOLIS MERIONE, Cramer.
 36. ERGOLIS TAPROBANA, Westwood.
 37. ERGOLIS ARIADNE, Linnæus.
 38. BYBLIA ILITHYIA, Drury.
 1000—3000 ft. Near tanks on the plains.
 39. EURIPUS CONSIMILIS, Westwood.

One specimen seen at the flower of *Lantana* at the north-western corner of the Nilgiris, October, 1888.

40. CUPHA ERYMANTHIS, Drury.
 3000—6000 ft. Common.

LARVA, pale apple-green with branching black spines. PUPA, pale apple-green with three pairs of red and black frontal processes, and red and black frontal streaks.

41. ATELLA PHALANTA, Drury.
 42. CETHOSIA MAHRATTA, Moore.

300—3500 ft. Common on the western slopes and a rare straggler throughout the rest of the district.

43. CYNTHIA SALOMA, Swinhoe.

Both sexes common on the western slopes, rare throughout the rest of the district.

44. ROHANA CAMIBA, Moore.

3000—6000 ft. The female very rare, the male not common.

45. PRECIS IPHITA, Cramer.
 46. JUNONIA ALMANA, Linnæus.

Form *asterie*, Linnæus.

47. JUNONIA ATLITES, Linnæus.
 48. JUNONIA LEMONIAS, Linnæus.
 49. JUNONIA HIERTA, Fabricius.
 50. JUNONIA ORITHYIA, Linnæus.
 51. NEPTIS HORDONIA, Stoll.

Form *plagiosa*, Moore.

On the lower slopes the former is the wet-season form, the latter the dry-season, on the plateau *N. plagiosa* occurs throughout the year.

52. NEPTIS VIRAJA, Moore.

One specimen taken on the western slopes in October 1888, at 500 ft.

53. *NEPTIS VARMONA*, Moore.Form *swinhoei*, Butler,,, *eurymene*, Butler.

N. eurymene is the dry-season form, *N. varmona*, the wet-season, and *N. swinhoei*, a variety of the former. Another small form is found on the plateau exactly like *N. astola* from the N.-W. Himalayas, except that the ground-colour of the underside is pale yellow.

54. *NEPTIS KAMARUPA*, Moore.

3000—4000 ft. A quite distinct species, larger and with the ground-colour of the underside a much brighter orange.

55. *NEPTIS KALLAURA*, Moore.

3000—4000 ft. Rare.

56. *NEPTIS NANDINA*, Moore.

3000—4000 ft. The width of the white bands on the underside in these two species varies much and, though *N. nandina* is larger, I doubt if they are distinct.

57. *NEPTIS OPHIANA*, Moore, var. *nilgirica*, Moore, n.

DESCRIPTION: "Allied to the Sikkimese *N. ophiana*, wings shorter. UPPERSIDE, both wings with similarly disposed white markings. Forewing with the discal series of spots much larger, the lower spot of the middle pair being quadrate in shape (not obliquely triangular as in *N. ophiana*) there are also two large spots in the lower pair instead of one only as in *N. ophiana*. Hindwing with the medial band and discal spots broader. UNDERSIDE, both wings bright red with broad markings as above, and intervening outer narrow fasciæ. EXPANSE: 2·37 inches."

Mr. F. Moore gives the above description as of a new species, and it appears to be constant in this district, except that the colour of the underside varies, and the narrow outer fasciæ of the hindwing are often absent, but, as Mr. de Nicéville points out ("Butterflies of India," Vol. II, p. 105) that in other localities the distinguishing characters are inconstant, it is better it should rank as a variety. 3000—5000 ft. Not uncommon.

58. *NEPTIS JUMBAH*, Moore.

3000—5000 ft. Common.

59. *CIRRHOCHROA RELATA*, de Nicéville.60. *CIRRHOCHROA THAIS*, Fabricius.61. *CIRRHOCHROA SWINHOEI*, Butler.

3000—6000 ft. Commoner on the southern than the northern slopes. I do not believe in the distinctness of the above three forms; a similar variety of *C. swinhoei* with the inner edge of the discal band of forewing on underside not constricted at lower discoidal and first median nervules occurs, and intermediate specimens are found.

62. *HYPOLIMNAS BOLINA*, Linnæus.

63. *HYPOLIMNAS MISIPPUS*, Linnæus.

Three forms of the female occur "mimicking" *L. chrysippus*, *L. alcippus*, and *L. dorippus*.

64. *ARGYNNIS NIPHE*, Linnæus.

Confined to the plateau, where it is very common; much smaller in size than North Indian specimens.

65. *PARTHENOS VIRENS*, Moore.

Common on the western slopes and occurs throughout the district as a rare straggler.

66. *MODUZA PROCRI*s, Cramer.

3000—4000 ft. Rare.

67. *ATHYMA PERIUS*, Linnæus.

3000—7000 ft.

68. *ATHYMA MAHESA*, Moore.

3000—4000 ft. Rare. The dry-season form is larger than Sikkim specimens of *mahesa*—not *ranga*—and has the markings similar, while the wet-season form is smaller and has the markings on the upperside reduced to the discal band on both wings, and on the forewing three indistinct spots from the subcostal nervure and one in the cell.

69. *ATHYMA SELENOPHORA*, Kollar.

3000—5000 ft. Very rare. I have only taken three males and three females. Compared with Sikkim specimens the male has the upper spot of the discal band, on the forewing, smaller and rounder, the next spot of the same size, then the rest of the band on both wings narrower.

70. *ATHYMA INARINA*, Butler.

3000 ft. Two males which have the fulvous band on the upper-side obsolescent, also one female on the western slopes.

71. *SYMPHÆDRA NAIS*, Forster.

1000—3000 ft. In bamboo jungle.

72. *EUTHALIA EVELINA*, Stoll.

1000—4000 ft. Rare and difficult to catch.

73. *EUTHALIA LEPIDEA*, Butler.

2000—6000 ft. Rare.

74. *EUTHALIA GARUDA*, Moore.

1000—3000 ft. Rare.

75. *EUTHALIA LUBENTINA*, Cramer.

3000—4000 ft. Rare.

76. *PYRAMEIS CARDUI*, Linnæus.

Confined to the plateau.

77. *PYRAMEIS INDICA*, Herbst.

Confined to the plateau.

78. *VANESSA CANACE*, Linnæus.

3000—7000 ft.

LARVA, orange and white in alternate segments, numerous black spots on the orange segments, black streaks on the white, seven white branching black-tipped spines on each orange segment. PUPA, variegated reddish-brown with frontal gold and silver spots, head produced and bifid.

Differs from the description of the early stages of *V. haronica*.

79. *CYRESTIS THYODAMAS*, Boisduval.

Throughout the district. The yellow form does not occur.

80. *KALLIMA WARDI*, Moore.

2000—4000 ft. Rare on the northern, not uncommon on the southern slopes. Comes freely to sugar. The prominence of the discal spots varies much; rather larger and paler than specimens from Canara.

81. *CHARAXES ATHAMAS*, Drury.

Form *samatha*, Moore.

3000—4000 ft. Common.

82. *CHARAXES FABIVS*, Fabricius.

3000—4000 ft. Rare.

83. *CHARAXES IMNA*, Butler.

3000—4000 ft. Rare. The male has the basal fulvous area much brighter than *C. psaphon*, the female is larger than the female of that species = *C. serendiba*, and has the apex of the forewing much more produced, the shape of the white band and the black line defining its inner margin varies much, and on the forewing the band sometimes extends within the black line.

Family LEMONIIDÆ.

Subfamily LIBYTHÆINÆ.

84. *LIBYTHEA MYRRHA*, Godart.

Form *rama*, Moore.

3000—7000 ft. The width of the markings varies much, some specimens being typical *L. myrrha*, some intermediate, and some *L. rama*.

85. *LIBYTHEA LEPITA*, Moore.

3000—4000 ft. Rare. All the markings are small, and the discoidal streak, on the forewing, and two spots beyond it are well separated, and the underside is more variegated compared to Kumaon specimens.

Subfamily NEMEOBIINÆ.

86. *ABISARA SUFFUSA*, Moore.

3000—5000 ft. Fairly common.

Family LYCÆNIDÆ.

87. SPALGIS EPIUS, Westwood.

2000—4000 ft. Commoner on the southern slopes than the northern.

88. NEOPITHECOPS ZALMORA, Butler.

3000—4000 ft. The size of the white markings varies much in the several broods, but usually the dry-season form has much more white on the upperside than the wet-season form, and the black markings of the underside are smaller and fewer.

89. MEGISBA THWAITESI, Moore.

2000—4000 ft. The acuteness of the forewing and the size of the white discal patch vary slightly.

90. CURETIS THETYS, Drury.

1000—3000 ft. Confined to the southern and western slopes and very rare. The outer margin of the hindwing much rounded. Both the orange and white forms of the female occur.

91. CYANIRIS PUSPA, Horsfield.

Form *lavendularis*, Moore.

„ *lilacea*, var. n.

DESCRIPTION: MALE. UPPERSIDE, *both wings* with no white on the disc. FEMALE. UPPERSIDE, *both wings* with the whole white discal area suffused with blue more especially towards the base. UNDERSIDE, *both wings* as in the typical *C. puspa*. The seasonal broods do not differ. HABITAT: Nilgiris southern slopes and Nellyampathy Hills, Cochin.

2000—4000 ft. The *puspa* form is smaller than Himalayan specimens. The *lavendularis* form agrees with Ceylon specimens.

92. CYANIRIS ALBIDISCA, Moore.

3000—7000 ft. Common.

93. CYANIRIS LIMBATUS, Moore.

3000—7000 ft. Male very common; female rare, the whole disc suffused with blue.

94. CYANIRIS AKASA, Horsfield.

6000—8000 ft. Confined to the plateau, where it is very common.

95. CHILADES LAIUS, Cramer.

1000—3000 ft. Found in cultivation at the base of the hills in the cold weather.

96. CHILADES VARUNANA, Moore.

One pair taken on the western slopes in October 1888, at 300 ft.

97. ZIZERA PUTLI, Kollar.

1000—3000 ft. Found in cultivation at the base of the hills.

98. ZIZERA PYGMÆA, Snellin.

1000—7000 ft.

99. *ZIZERA INDICA*, Murray.

1000—7000 ft.

The black spots of the band on the underside of the forewing larger than in *Z. sangra*.

100. *ZIZERA OSSA*, Swinhoe.

1000—7000 ft. Much paler than *Z. maha*. Male with the dusky outer margin narrower. Female of the same colour—not dark as in *Z. maha*—the apex of the forewing broadly dusky.

101. *AZANUS UBALDUS*, Cramer.

1000—7000 ft. Rather rare.

102. *AZANUS CRAMERI*, Moore.

1000—3000 ft. Rare.

103. *TARUCUS PLINIUS*, Fabricius.

1000—7000 ft.

104. *TARUCUS NARA*, Kollar.Form *callinara*, Butler.

1000—3000 ft. Specimens differ much in size; the spots of the underside are sometimes well separated, sometimes conjoined.

105. *CASTALIUS DECIDEA*, Hewitson.Form *interruptus*, Moore.,, *hamatus*, Moore.

2000—5000 ft. *C. decidea* is the wet-season form, *C. interruptus*, the dry-season form, and *C. hamatus*, which occurs on the southern and western slopes, the dry-season form in regions of heavy rain-fall.

106. *CASTALIUS ROSIMON*, Fabricius.

1000—7000 ft.

107. *CASTALIUS ETHION*, Doubleday and Hewitson.

2000—4000 ft. In the female the blue markings of the male are replaced by black.

108. *CASTALIUS ANANDA*, de Nicéville.

Common at the foot of the Nellyampathy Hills, Cochin, in November, 1882. In September, 1882, I took about a dozen males and one female at 5000 feet on the northern slopes of the Nilgiris. They were confined to a few square yards and evidently belonged to one brood. I have never seen the species since.

109. *EVERES PARRHASIUS*, Fabricius.

1000—4000 ft.

110. *JAMIDES BOCHUS*, Cramer.

1000—7000 ft.

111. *LYCÆNESTHES LYCÆNINA*, Felder.

2000—4000 ft.

112. *NACADUEA PROMINENS*, Moore.

2000—6000 ft.

113. *NACADUBA MACROPHTHALMA*, Felder.

2000—6000 ft. The male of the wet-season brood is paler in colour than that of the dry-season brood, and has the areas between the discal bands on both wings of a dusky black colour. The dusky patches vary in extent and disposition.

114. *NACADUBA VIOLA*, Moore.

3000—4000 ft. April and May.

115. *NACADUBA ARDATES*, Moore.

1000—4000 ft. The tailed and tailless forms occur in both sexes throughout the year, and I believe them to be distinct species.

116. *NACADUBA DANA*, de Nicéville.

2000—4000 ft. Common.

117. *NACADUBA HAMPSONI*, de Nicéville.

2000—4000 ft. Male fairly common, female unknown. The wet-season form has dusky markings on the underside similar to those of *N. macrophthalma*, but more variable in extent.

118. *CATOCORYSOPS STRABO*, Fabricius.119. *CATOCORYSOPS CNEJUS*, Fabricius.

Form *patala*, Kollar.

„ *hapalina*, Butler.

120. *POLYOMMATUS BÆTICUS*, Linnæus.121. *LAMPIDES ÆLIANUS*, Fabricius.

Form *alexis*, Stoll.

1000—4000 ft. The former the wet-season, the latter the dry-season form.

122. *LAMPIDES ELPIS*, Godart.

1000—4000 ft.

123. *TALICADA NYSEUS*, Guérin.

2000—8000 ft. Very common.

124. *CATAPECILMA ELEGANS*, Druce.

2000—4000 ft. Fairly common.

125. *HORAGA ONYX*, Hewitson.126. *HORAGA VIOLA*, Moore.

2000—4000 ft. I have taken some thirty specimens of *Horaga*, and all the dark ones (*H. viola*) are males, and all the blue ones (*H. onyx*) females, and I believe the two forms are male and female of one species, but as in Sikkim and the Himalayas both *H. onyx* and *H. viola* have the sexes alike,—*H. onyx* male with secondary sexual characters on the forewing—the Nilgiri form would be a distinct species, but proof is wanting.

127. *SITHON INDRA*, Moore.

2000—5000 ft. Very rare.

128. RATHINDA AMOR, Fabricius.
2000—4000 ft. Rare.
129. IRAOTA TIMOLEON, Stoll.
1000—3000 ft. The species, as usual, appears under two forms.
130. DEUDORIX EPIJARBAS, Moore.
2000—7000 ft.
131. VADEBRA ? LANKANA, Moore.
2000—3000 ft. Seven males and one female on the southern slopes in April of this year. The generic name should be changed as the genus of *Euplexine* has priority.
132. ZESIUS CHRYSOMALLUS, Hübner.
2000 ft. A single female in April of this year.
133. BASPA MELAMPUS, Cramer.
2000—7000 ft. Rare.
134. VIRACHOLA ISOCRATES, Fabricius.
2000—4000 ft. Much paler than North Indian specimens.
135. VIRACHOLA PERSE, Hewitson.
2000—4000 ft. Some males have a patch of fulvous on the fore-wing, others not.
136. RAPALA LAZULINA, Moore.
2000—4000 ft. Common.
137. RAPALA SCHISTACEA, Moore.
2000—4000 ft. Common.
138. RAPALA DISTORTA, de Nicéville.
3000 ft. One female in August of this year on the southern slopes, and eight females on the western slopes, 1000—2500 ft., in September, 1888. Differs from the description and figure of *R. distorta* in having the blue area on the upperside of both wings more restricted, and on the underside the white lines more regular and split up into well-defined lunules.
139. SPINDASIS VULCANUS, Fabricius.
140. SPINDASIS TRIFURCATA, Moore.
2000—4000 ft. Not common.
141. SPINDASIS ELIMA, Moore.
2000—4000 ft. Not uncommon.
142. SPINDASIS CONCANA, Moore.
2000—4000 ft. Rather rare.
143. SPINDASIS LAZULARIA, Moore.
3000—4000 ft. Rare.
144. SPINDASIS ABNORMIS, Moore.
6000 ft. A male in Mr. Moore's collection taken by Mr. A. Lindsay, and a female in mine taken by Major-General Evezard, both at

Coonoor, are the only known specimens of this rare and distinct species. As Mr. de Nicéville will describe the female in "The Butterflies of India," Vol. III, it is unnecessary to do so here.

145. PRATAPA CLEOBIS, Godart.

3000—6000 ft. Rare. Nilgiri specimens have the discal band on the underside not bounded outwardly by a white line, and the markings at the anal angle obsolescent compared with North Indian specimens.

146. TAJURIA LONGINUS, Fabricius.

2000—4000 ft. Rare.

147. TAJURIA MELASTIGMA, de Nicéville.

2000—3000 ft. I have taken two males and two females, and on several occasions found wings on the ground. There is also a male in Mr. A. Lindsay's collection. Mr. de Nicéville will describe the female in "The Butterflies of India" Vol. III.

148. CHERITRA JAFFRA, Butler.

About fifteen specimens taken in September, 1888, on the western slopes.

149. HYPOLYCÆNA NILGIRICA, Moore.

1000 ft. Described from a single male taken by Mr. A. Lindsay, which is the only Nilgiri record of the species, though it has since been taken in Ceylon.

150. HYPOLYCÆNA ETOLUS, Fabricius.

Three females taken on the western slopes in September, 1888, at 2,500 ft.

151. LOXURA ATYMNUS, Cramer.

1000—4000 ft.

152. LOXURA SURYA, Moore.

About ten specimens taken on the western slopes in September, 1888, at 300—3000 ft.

153. BINDAHARA SUGRIVA, Horsfield.

2000—4000 ft. Fifteen males and one female this year, before which I had not seen the species. The wet-season form is larger and has the underside darker and yellower than the dry-season form.

154. SURENDRA TODARA, Moore.

2000—4000 ft. Common

155. AMBLYPODIA NARADOIDES, Moore.

Form *darana*, Moore.

2000—4000 ft. Fairly common on the southern slopes, rare on the northern. The variety of the female without any blue on the upperside (*A. darana*) is rare.

156. SATADRA CANARICA, Moore.

3500 ft. A single female March, 1887, on the northern slopes.

At least two species of *Nilasera* occur, which I have seen on one or

two occasions, but been unable to capture ; one of the *N. centaurus* group, the other with the variegated underside of the *N. amantes* group.

Family PAPILIONIDÆ.

Subfamily PIERINÆ.

157. *LEPTOSIA XIPHIA*, Fabricius.

1000—7000 ft.

158. *TERIAS HECABE*, Linnæus.

Form *hecabeoides*, Ménétriés.

„ *æsiopæ*, Ménétriés.

„ *purrea*, Moore.

„ *excavata*, Moore.

„ *silhetana*, Wallace.

„ *uniformis*, Moore.

„ *swinhoei*, Butler.

T. silhetana, *uniformis*, and *swinhoei* possibly form one distinct species. The forms *hecabeoides* and *æsiopæ* were described from the West Indies, and it seems scarcely probable they are Indian.

159. *TERIAS LYBYTHEA*, Fabricius.

Form *drona*, Horsfield.

„ *rubella*, Wallace.

„ *venata*, Moore.

„ *rama*, Moore.

T. venata and *rama* probably form a distinct species.

160. *TERIAS LÆTA*, Boisduval.

161. *CATOPSILIA CATILLA*, Cramer.

162. *CATOPSILIA CROCALE*, Cramer.

These two species are doubtfully distinct, and there are several intermediate named forms.

163. *CATOPSILIA GNOMA*, Fabricius.

Form *ilea*, Fabricius.

164. *CATOPSILIA PYRANTHE*, Fabricius.

These two species again are doubtfully distinct. *C. ilea* is intermediate.

165. *IXIAS PYRENE*, Linnæus.

166. *IXIAS PYRENASSA*, Wallace.

Form *dharmasalcæ*, Butler.

The former is the wet-season brood, the latter the dry-season form.

167. *IXIAS MERIDIONALIS*, Swinhoe.

Form *anubala*, Swinhoe.

The former is the dry-season form, the latter the wet-season form.

168. *IXIAS AGNIVERNA*, Moore.

169. *HEBOMOIA GLAUCIPPE*, Linnæus.

170. *CALLOSUNE EUCHARIS*, Fabricius.

Form *pseudevanthe*, Butler.

The former is the dry-season form, the latter the wet-season form.

171. *CALLOSUNE ETRIDA*, Boisduval.

Form *pernotatus*, Butler.

„ *purus*, Butler.

„ *bimbura*, Butler.

C. bimbura is the cold weather form.

172. *CALLOSUNE DANÆ*, Fabricius.

173. *IDMAIS AMATA*, Fabricius.

1000—3000 ft. Common.

174. *IDMAIS TRIPUNCTA*, Butler.

1000 ft. At the base of the southern slopes. The genera *Callosune* and *Idmais* frequent the plains at the base of the Nilgiris and only appear on the plateau as stragglers.

175. *COLIAS NILAGIRIENSIS*, Felder.

Confined to the plateau.

176. *HYPOSCRTIA NARENDRA*, Moore.

2000—4000 ft.

177. *CATOPHAGA WARDI*, Moore.

178. *CATOPHAGA PAULINA*, Cramer.

179. *CATOPHAGA NEOMBO*, Boisduval.

180. *CATOPHAGA GALENA*, Felder.

181. *CATOPHAGA LANKAPURA*, Moore.

2000—7000 ft. *C. wardi* is the most distinct of the above five forms.

182. *APPIAS VACANS*, Moore.

1000—3000 ft. Rare. A slight, but apparently constant variety of *A. hippoides*, differing from it in having dark markings at the base of the hindwing on the underside.

183. *APPIAS LIBYTHEA*, Fabricius.

1000—3000 ft. Rare.

184. *GANORIS GLICIRIA*, Cramer.

Confined to the plateau. Nilgiri specimens are darker than Himalayan ones, especially on the underside of the hindwing.

185. *HUPHINA PHRYNE*, Fabricius.

Form *cassida*, Fabricius.

The former is the wet-season, the latter the dry-season form.

186. *HUPHINA ZEUXIPPE*, Cramer.

A quite distinct species with sharper apex to the forewing, and more powerful flight.

187. HUPHINA REMBA, Moore.

Common on the western slopes, a rare straggler throughout the rest of the district.

188. BELENOIS MESENTINA, Cramer.

Form *auriginea*, Butler.

„ *lordaca*, Walker.

1000—8000 ft. *B. auriginea* is the wet-season, *B. lordaca* the dry-season form, and *B. mesentina* the wet-season form from dry localities and high elevations; it is found on the plateau.

189. NEPHERONIA FRATERNA, Moore.

Form *ceylonica*, Felder.

1000—3000 ft. The former is the dry-season, the latter the wet-season form.

190. NEPHERONIA PINGASA, Moore.

1000 ft. The western slopes and Malabar. A form from regions of heavy rain-fall.

191. NEPHERONIA GÆA, Felder.

1000—3000 ft. The Indian form of the Burmese *N. valeria*.

192. DELIAS EUCHARIS, Drury.

1000—7000 ft.

Subfamily PAPILIONINÆ.

193. PAPILIO (ORNITHOPTERA) MINOS, Cramer.

3000—7000 ft.

194. PAPILIO (CHILASA) DISSIMILIS, Linnæus.

1000—4000 ft. Rare.

195. PAPILIO (CHILASA) CLYTIA, Linnæus.

1000—4000 ft. Rare.

196. PAPILIO (CHILASA) DRAVIDARUM, Wood-Mason.

Common in the western slopes, rare on the northern.

197. PAPILIO (MENELAIDES) PANDIANA, Moore.

Confined to the western slopes, 1000—3000 ft., where it is common.

198. PAPILIO (MENELAIDES) HECTOR, Linnæus.

1000—7000 ft.

199. PAPILIO (MENELAIDES) ARISTOLOCHIÆ, Fabricius.

1000—7000 ft.

200. PAPILIO (ORPHEIDES) ERITHONIUS, Cramer.

1000—7000 ft.

201. PAPILIO (LAERTIAS) PAMMON, Linnæus.

1000—7000 ft. The three forms of the female occur.

202. PAPILIO (CHARUS) DAKSHA, n. sp.

Papilio daksha, Moore, MS.

"Allied to *C. helenus*. Differs in its more triangular form of forewing. Hindwing with the three white (very pale yellow) patches, as seen on the upperside, much wider in both sexes, the upper portion being twice the width of that in *C. helenus*, and the lower portion extends to, and slightly crosses, the discocellular. On the underside, the grey-speckled fascia on the forewing is narrower, and crosses the discal area midway between the end of the cell and exterior margin; the white patches on the hindwing are of the same width as seen from above, and form a complete continuous band, cut evenly by the slender black veins (not disconnected as they are in *C. helenus*); the submarginal and anal red lunules are similarly disposed, but in both sexes there are two small lunules between the subanal and the white patch."

"Expanse ♂ 5, ♀ $5\frac{1}{2}$ inches."

"This species is to *P. helenus* what *P. tamilana* is to *P. paris*."

1000—7000 ft. Common. Larva like that of *P. helenus* as figured by Horsfield and Moore, feeds on orange, and has the power of protruding two pink horns from the head with a delicious scent; it will always do this if taken up by a pair of scissors as by the beak of a bird.

203. *PAPILIO* (HARIMALA) CRINO, Fabricius.

1000—3000 ft.

204. *PAPILIO* (HARIMALA) BUDDHA, Westwood.

Confined to the western slopes, where it is not uncommon.

205. *PAPILIO* (ACHILLIDES) TAMILANA, Moore.

3000—7000 ft. From April to June. Not uncommon.

206. *PAPILIO* (ILIADES) POLYMNESTOR, Cramer.

2000—7000 ft.

207. *PAPILIO* (PATHYSA) NOMIUS, Esper.

1000 ft. One specimen.

208. *PAPILIO* (DALCHINIA) TEREDON, Felder.

2000—7000 ft.

209. *PAPILIO* (DALCHINIA) THERMODUSA, Swinhoe.

3500 ft. The northern slopes, two specimens February, 1886, and February, 1888.

210. *PAPILIO* (ZETIDES) DOSON, Felder.

1000—6000 ft. Rather rare.

211. *PAPILIO* (ZETIDES) AGAMEMNON, Linnæus.

1000—7000 ft.

212. *PAPILIO* LIOMEDON, Moore.

The western slopes, 2500 ft. Two specimens, September, 1888.

Family HESPERIIDÆ.

213. *BADAMIA EXCLAMATIONIS*, Fabricius.

3000—7000 ft. The two wet-season broods only.

214. *CHOASPES BENJAMINI*, Guérin.
Confined to the plateau. The two wet-season broods only.
215. *CHOASPES GOMATA*, Moore.
6000 ft. One male at tea blossom, October, 1887.
216. *ISMENE HELIRIUS*, Cramer.
3000—6000 ft. Common at tea blossom. The two wet-season broods only, July and October.
217. *PARATA CHROMUS*, Cramer.
3000—6000 ft.
218. *PARATA ALEXIS*, Fabricius.
3000—7000 ft.
219. *BIBARIS SENA*, Moore.
3000—6000 ft. Rare.
220. *BARACUS SUBDITUS*, Moore.
2000—4000 ft. Common on both northern and southern slopes.
Four broods.
221. *BARACUS SEPTENTRIONIS*, Wood-Mason & de Nicéville.
2000—4000 ft. The southern slopes only. Common and has four broods.
222. *ASTICTOPTERUS STELLIFER*, Butler.
2000—4000 ft.
223. *ASTICTOPTERUS SUBFASCIATUS*, Moore.
About forty specimens taken in September, 1888, on the western slopes, at 500—3000 ft.
224. *MATAPA ARIA*, Moore.
2000—6000 ft. Rare.
225. *GANGARA THYRSIS*, Fabricius.
2000—6000 ft. Rare.
226. *PARNARA KUMARA*, Moore.
2000—6000 ft. Common.
227. *PARNARA TOONA*, Moore.
Three specimens taken in September, 1888, on the western slopes.
228. *PARNARA NAROOA*, Moore.
2000—4000 ft. Not uncommon.
229. *PARNARA BEVANI*, Moore.
2000—4000 ft.
230. *PARNARA BADA*, Moore.
1000—4000 ft.
231. *SUASTUS GREMIUS*, Fabricius.
1000—6000 ft. Not common.
232. *SUASTUS ADITUS*, Moore.
2500 ft. Twenty-five specimens taken in September, 1888, on the

western slopes. Differs from Andaman specimens in the spots of the forewing being smaller, the underside of the hindwing being suffused on the disc with purple.

233. *SUASTUS SUBGRISEUS*, Moore.

3500 ft. Northern slopes, one specimen.

234. *CHAPRA MATHIAS*, Fabricius.

2000—6000 ft.

235. *CHAPRA AGNA*, Moore.

2000—4000 ft.

236. *CHAPRA PROMINENS*, Moore.

2000—4000 ft.

237. *TELICOTA BAMBUSE*, Moore.

2000—6000 ft.

238. *PADRAONA DARA*, Kollar.

2000—4000 ft. Underside greenish.

239. *PADRAONA PSEUDOMÆSA*, Moore.

2000—4000 ft. Underside ochreous.

240. *PADRAONA MÆSOIDES*, Butler.

2000—4000 ft. Markings on underside of hindwing defined with black.

241. *PADRAONA GOLA*, Moore.

2000—4000 ft.

Another form of *Padraona* occurs with the fulvous markings occupying the greater part of the upperside of the forewing. I do not know if it has been described. It is nearest to *P. gola*.

242. *CUPITHA PURREA*, Moore.

2000—4000 ft. Rare.

243. *AMPITTIA MARO*, Fabricius.

1000—3000 ft. Not common.

244. *TARACTROCERA CORAMAS*, Hewitson.

Confined to the plateau, where it swarms on grass-land from June to November.

245. *TARACTROCERA MÆVIUS*, Fabricius.

3000 ft. The northern slopes, four specimens, July, 1888.

246. *THANAOS INDISTINCTA*, Moore.

3000. The forest below the northern slopes, from July to November.

247. *HALPE BETURIA*, Hewitson.

2000—4000 ft. Rare.

248. *HALPE CEYLONICA*, Moore.

2000—4000 ft. Common.

249. *HALPE SITALA*, de Nicéville.

3000—5000 ft. Not common.

250. HALPE HONOREI, de Nicéville.

300—4000 ft.

251. HALPE CERATA, Hewitson.

About thirty specimens taken on the western slopes in September, 1888.

252. ISOTEINON VINDHIANA, Moore.

253. ISOTEINON NILGIRIANA, Moore.

254. ISOTEINON MODESTA, Moore.

I. vindhiana is, I think, the dry-season form of *I. nilgiriana*, and *I. modesta*, described from a single specimen taken by Mr. A. Lindsay, a variety.

2000—4000 ft. *I. nilgiriana* and *I. vindhiana* common. *I. modesta* I have never taken.

255. GOMALIA ALBOFASCIATA, Moore.

1000—3000 ft. Found in cultivation on the plains, rare.

256. PYRGUS GALBA, Fabricius.

1000—8000 ft.

257. HYAROTIS ATRATUS, Fabricius.

2000—4000 ft. Not uncommon on the southern slopes, rare on the northern.

258. TAGIADES ATTICUS, Fabricius.

2000—5000 ft.

259. TAGIADES OBSCURUS, Mabille.

2000—5000 ft. Not common.

260. PLESIONEURA LEUCOCERA, Kollar.

2000—5000 ft. Common.

261. PLESIONEURA FUSCA, n. sp.

HABITAT: Nilgiris and Shevaroy Hills.

EXPANSE: 1.7 inches.

DESCRIPTION. Differs from *P. spilothyrsus* in having the cilia of the hindwing alternately black and white as in *P. leucocera*; the costal bifid spot of the discal series, on the forewing, white, not ochreous; the underside mottled with obscure grey; the latter half of the antennæ, in the male, white. The two lower spots of the subapical series, on the forewing, are often wanting, also the lowest spot of the discal series. Very near to *P. nigricans*, de Nicéville.

2000—4000 ft. Not uncommon.

262. PLESIONEURA SPILOTHYRUS, Felder.

2500 ft. The western slopes, two specimens, September, 1888.

263. PLESIONEURA AMBAREESA, Moore.

2000—6000 ft. Not uncommon on the southern slopes, rare on the northern.

264. *PLESIONEURA ALYSOS*, Moore.

3600 ft. One specimen on the northern slopes.

265. *PLESIONEURA RESTRICTA*, Moore.

2000—4000 ft. Rare.

266. *PLESIONEURA BASIFLAVA*, de Nicéville.

About twenty specimens taken in September, 1888, on the western slopes, at 2000—3000 ft.

267. *UDASPES FOLUS*, Cramer.

1000—7000 ft. Not common.

268. *COLADENIA DAN*, Fabricius.

2000—4000 ft.

269. *COLADENIA TISSA*, Moore.2000—4000 ft. Fairly common, a geographical race of *C. indrani*.270. *ABARATHA RANSONNETII*, Felder.Form *taylori*, de Nicéville.

The latter is the dry-season form; specimens occur with the ground-colour of every shade between pale chestnut and nearly black.

271. *ABARATHA AGAMA*, Moore.

3000 ft. One specimen taken by Mr. Alfred Lindsay on the southern slopes.

272. *TAPENA THWAITESI*, Moore,

2000—4000 ft. Not uncommon.

273. *ANTIGONUS ANGULATA*, Felder.2000—4000 ft. Not uncommon. Probably this is the species recorded from the Nilgiris as *A. potiphera* in Kirby's Synonymic Catalogue.274. *SARANGESA DSAHARA*, Moore.

1000—3000 ft. The western slopes, not common.

275. *SARANGESA ALBICILIA*, Moore.

2500 ft. The western slopes, two specimens, September, 1888. It differs from Ceylon specimens in being dusky instead of white on the underside of the hindwing.

